CLAIMS

What is claimed is:

1. A system that facilitates generation of code from a HMI representation of objects in an industrial automation environment, comprising:

a component that analyzes the HMI representation of objects; and

a code generation component that generates code based at least upon the analyzed HMI object.

2. The system of claim 1, the code being control code that governs actions of industrial components.

3. The system of claim 1, the code being at least one of ladder diagrams, function block diagrams, structured text, instruction lists, and sequential function charts.

4. The system of claim 1, the code relayed to at least one industrial component comprising a processing device.

5. The system of claim 4, the processing device being a programmable logic controller.

6. The system of claim 1, further comprising a library of disparate HMI objects.

7. The system of claim 6, wherein the HMI representation of objects comprises one or more HMI objects of the library.

8. The system of claim 1, further comprising an editing component that enables editing of the HMI representation of objects.

9. The system of claim 8, the editing component comprising a modifiable template.

10. A HMI comprising the system of claim 1.

11. The system of claim 10, the HMI being a fixed HMI.

12. The system of claim 10, the HMI being a tethered HMI.

13. The system of claim 10, the HMI being a wireless HMI.

14. The system of claim 1, wherein the code generation component comprises an intelligent component that automatically generates code of a program language desired by a user.

15. The system of claim 1, wherein the code generation component comprises an intelligent component that automatically compiles code in an executable code format according to a processing device that receives the executable code.

16. The system of claim 1, wherein the code generation component outputs control code in a universal language, the control code automatically translated to a program language desired by a user by a first intelligent component, and the control code compiled into an executable code format according to a processing device that receives the executable code.

17. A system that facilitates industrial automation, comprising:

one or more HMI objects representing at least one of

an industrial component; and

an industrial action;

an arrangement of one or more HMI objects that represent at least one of

an industrial system comprising at least one industrial component; and

an industrial process comprising at least one industrial action; and

a code generation component that generates code based at least in part upon the arrangement of HMI objects.

18. The system of claim 17, further comprising an editing component that enables editing of the one or more HMI objects.

19. The system of claim 18, the editing component comprising a modifiable template.

20. The system of claim 18, the editing component facilitating multi-user development.

21. The system of claim 17, further comprising a creation component that enables creating HMI objects.

22. The system of claim 21, the creation component comprising a modifiable template.

23. The system of claim 22, the modifiable template employing graphical representations of HMI objects.

24. The system of claim 22, the modifiable template comprising a nested template.

25. The system of claim 22, wherein modification of the modifiable template effectuates altering one or more objects generated by the modifiable template.

26. The system of claim 17, further comprising an object generator that automatically generates the HMI objects.

27. The system of claim 26, the object generator utilizing artificial intelligence techniques to infer existence of one or more components within the industrial system.

28. The system of claim 26, the object generator utilizing artificial intelligence techniques to infer existence of one or more actions within the industrial process.

29. The system of claim 26, the object generator receiving data comprising information relating to at least one of

the industrial system; and

the industrial process; and

generating HMI objects based at least in part on the data.

30. The system of claim 17, the arrangement of HMI objects displayed as a single HMI object.

31. The system of claim 17, further comprising a library of disparate HMI objects.

32. The system of claim 17, the arrangement HMI objects comprising at least one input and at least one output.

33. The system of claim 32, further comprising a connection mechanism that facilitates connecting HMI objects.

34. The system of claim 17 embodied in a computer readable medium.

35. A system that automatically generates code to facilitate industrial automation, comprising:

means for receiving at least one HMI object for analysis, the HMI object representing one or more of

an industrial component; and

a particular action of an industrial process;

means for arranging the at least one HMI object to represent one or more of

an industrial system; and

an industrial process; and

means for generating code based on the arrangement of the at least one HMI object.

36. The system of claim 35, further comprising means for creating the HMI objects.

37. The system of claim 35, further comprising means for editing the HMI objects.

38. The system of claim 35, further comprising means for relaying the code to one or more processing devices.

39. A method for automatically generating code to govern actions of an industrial system and/or process comprising:

receiving a HMI representation of at least one of

an industrial system; and

an industrial process; and

automatically generating code based at least in part upon the representation.

40. The method of claim 39, further comprising:

automatically generating the representation of the industrial system and/or process by utilizing artificial intelligence techniques.

41. The method of claim 40, further comprising:

automatically generating the representation of the industrial system and/or process by utilizing plug-and-play technologies.

42. The method of claim 41, further comprising arranging HMI objects that represent at least one of

an industrial system; and

an industrial process;

to create the representation of the industrial system and/or process.

43. A data packet that passes between at least two computer processes, comprising:

a graphical representation of at least one of

an industrial system; and

an industrial process,

wherein the graphical representation is utilized to automatically generate code to govern the actions of at least one industrial component.